IN THE SPECIFICATION:

Please amend paragraphs 27, 33, 43, and 45 of the specification as follows:

[0027] The occupant sensing system 28 also includes an electric circuit 38, which is supported by the circuit carrier 34. Specifically, the circuit carrier 34 is made of a thin nonconductive and corrosion-resistant material, and it encapsulates known electrical components that form the electric circuit 38. For instance, in one embodiment, a flexible printed circuit forms the circuit carrier 34 and electric circuit 38. The circuit 38 is electrically connected to a controller schematically illustrated at 40. The electric circuit 38 carries electric signals generated by the vehicle occupant sensing system 28 to the controller 40. The controller 40 is electrically attached to a restraint system, schematically illustrated at 42. The restraint system 42 can be of many types, such as an air bag system, and the controller 40 ~~controls~~ sends an output to the restraint system 42 based on the signals delivered by the electric circuit 38. Although an airbag restraint system is discussed here, one having ordinary skill in the art will recognize that the type of restraint system 42 connected to the controller 40 does not limit the scope of the method of the present invention.

[0033] In this manner, the sensor array assembly 45, through the combined output of the sensors 46 forms a portion of a vehicle seat occupancy sensing system that is associated with the supplemental restrain system (SRS) 42. The sensor array 45 is utilized to provide data to the controller 40, which in turn sends an output to ~~system of~~ the SRS control system. The SRS control system may employ a neural net (NN) to process the sensor array data. In this case, the SRS control system uses the pattern generated by the sensor array 45, based on the occupancy of the vehicle seats as recognized by the NN, to activate or suppress the deployment of the airbags. More specifically, when a physical presence occupies the vehicle seat, the collective sensor

outputs of the sensors 46 in the sensor array 45 produce a particular pattern that the NN recognizes as belonging to a certain group of patterns (i.e. a cluster or classification). If the pattern is one that falls into a classification that it has been predetermined that it is desirable to deploy the airbag in the event of an impact, the SRS control system will be prepared to do so. If the pattern is one that falls into a classification that it has been predetermined that it is not desirable to deploy the airbag in the event of an impact, the SRS control system will take steps to suppress the deployment. Furthermore, the classification of the recognized pattern also provides the SRS control system with the capability to control the rate and percentage of airbag deployment if the SRS system is so designed. It should be appreciated that aside from tuning the sensor array 45 to produce distinguishable patterns for the NN to recognize, both the NN and the SRS control system are beyond the scope of this application. It should be further appreciated that the basic classifications of occupants used herein are those established in the industry through governmental regulation, and that the present invention is not limited only to those class distinctions but is fully capable of identifying and distinguishing a far greater separation of occupant classes as may be required in the future.

[0043] In Figure 4, since this portion of the method of the present invention tunes the output of a sensor array for a vehicle seat that is used with a neural net, the array must be electrically connected to the NN that is intended to be used with the seat. It should be appreciated that, although beyond the scope of this invention, it is necessary that some type of interface be established between the array and the NN, so that the analog data derived from the array can be preprocessed to provide digital information in the form that is understandable by the NN. Further, the data must be understandable as a series of representative seat occupancy patterns to the NN. A complete discussion of a NN of the type that may be employed with the vehicle seat occupancy sensing system disclosed herein is set forth in the co-pending application

U.S. Serial No. 10/748,504, entitled "Method Of Pattern Recognition And Occupancy Classification In A Vehicle Seat" and filed December 30, 2003. The disclosure of this application is incorporated herein by reference.

[0045] If any of the sensor response patterns are found to be indistinguishable in the neural net, the "Yes" path is taken to process block 250 which determines which sensors were deflected and the amount of deflection in those sensors for the indistinguishable sensor response patterns. This identifies which particular sensors in the indistinguishable patterns may need adjustment. It should be appreciated that in the sensor response patterns that are found to be indistinguishable by the neural net some, all, or only a few sensors actually have the same output value, but they may simply be close enough within the sensing tolerances of the neural net that the overall patterns seem the same. For example, if it is desirable to distinguish between the sensor response patterns generated by the BPD forms representative of an average 6-year old child and that of a small female figure (typically referred to as a 5th percentile female) it is notable that the weight distribution actually differs across the seat for the same body weight. Thus, although the weight is the same, the spread of the weight across the seat surface is narrower for the 6-year old child. To an un-tuned sensor array, this small distinction of how the weight distributes across the seat may be sensed, but not presented to the NN in a manner in which the NN can distinguish. For example ~~Particularly~~, if un-tuned, the sensors located just beyond the actual displaced seating area occupied by the 6-year old may inadvertently deflect a small amount which appears similar to the deflection of these sensors when the seat is occupied by a 5th percentile female form. In this case, the SRS would be improperly triggered to deploy by the control system in the event of a collision. Even more importantly is the opposite type of scenario, where a 5th percentile female, seated in a normal forward facing position, moves "out-of-position" in the seat. In this case, an un-tuned array of sensors may be "fooled" into reclassifying

the seat as now occupied by a 6-year old, which would improperly cause the SRS to suppress deployment for the 5th percentile female. The method of the present invention tunes the sensor array to avoid ~~this~~ inadvertent deployment and improper suppression of the SRS.